DV-76 / 77
User Manual

F/W 2.64 Ver:2.0

Contents

DV-76 / 77 series User's Guide 3
The Important Notice 3
Chapter 1: Introduction 4
1-1. Product Overview 4
1-2. Navigation Browser 6
1-3. Getting Start 7
Chapter 2 How to Use 8
2-1. DV-76 / 77 system provides three operation type 8
2-2. Network equipment 8
2-3. Wide area advertising with internet server 9
2-4. Operation Mode 10
2-5 Interactive 12
2-6 Handling play list 13
Chapter3. System Configuration 15
3-1. Video & Audio 15
3-2. Network Server 16
3-3 Wired Network Connection 17
3-4. Wireless Network Connection 17
3-5. Screen Setting 18
3-6. Time 19
3-7. Advanced Setup 20
Chapter 4 DSPCONFIG 22
4-1. DSPCONFIG Command (Basic Config) 22
4-2. DSPCONFIG Command II (Advanced Config) 27
4-3. Serial Port Control 30
4-4. Playlist 31
Appendix A. FAQ 34
1. How can I get best quality photo display? 34
2. How can I set Wireless LAN? 34
AppendixB Trees of Setup Page 35

DV-76 / 77 series User's Guide

DV-76 / 77 is networking HD quality advanced digital signage player. It can play high quality advertising photo and movie on internal storage, PC on the network or internet server.
These types of operation is the best system for small office, restaurant, market, hospital and so on.

The Important Notice

The information in this publication has been carefully checked and is believed to be entirely accurate at the time of publication. We assume no responsibility for possible errors omissions, or any consequences resulting from the use of the information contained herein.
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Chapter 1: Introduction

1-1. Product Overview

The features of DV-76 / 77 are low power consumption, comprehensive functions and stable system which can be configured easily by remote control and managed remotely via Ethernet network.

DV-76 / 77 provides four types of play mode

I. Auto play
II. Click-to-play with remote control
III. Interactive

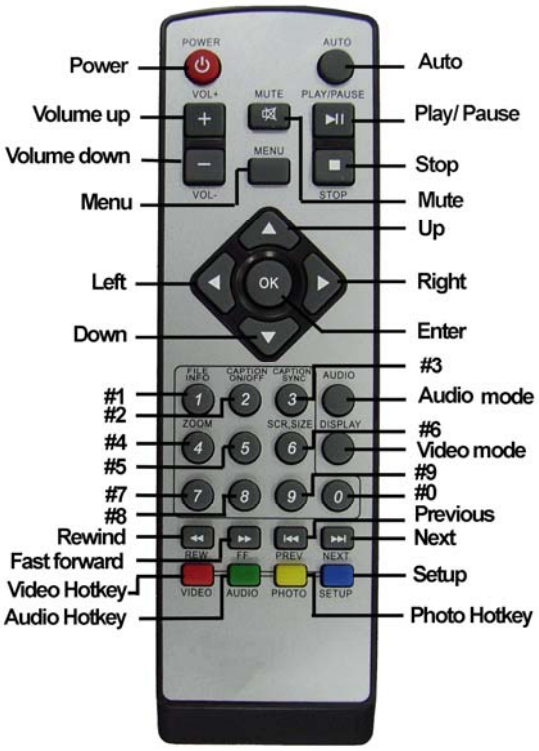
DV-76 / 77 supports three connected environments

1. Stand-alone: Without connected network
2. Internet: Connected the HTTP server by internet
3. Control by rs232 TTL level with DV-68K or other control

Each of the networking DV-76 / 77 connects with the server through either public network directly or intranet network. In other words, all contents displayed in each terminal device can be managed, delivered and maintained by the remote server.

The DV-76 / 77 assists business owners and corporate partners easy to show their target promotions, product marketing, brand advertising, community news and easily.

Remote Control



Button Corresponding table:

Item	Button Name	Brower	Function
1	POWER	Power On/Off	Power On/Off
2	AUTO	Start Auto Play	N/A
3	VOL UP	N/A	Volume Up
4	VOL DOWN	N/A	Volume Down
5	MUTE	N/A	Mute sound
6	MENU	Go to menu	N/A
7	PLAY/PAUSE	Play	Play and Pause
8	STOP	Return to main menu	Stop
9	UP	Up	N/A
10	RIGHT	Right	N/A
11	LEFT	Left	N/A
12	OK	Enter or select	Show play time
13	DOWN	Down	N/A
14	#1 FILE INFO	1	Display file info
15	#2, CAPTION ON/OFF	2	Caption On/Off
16	#3, CAPTION SYNC	3	Caption Sync
17	#4, ZOOM	4	Zoom the screen
18	#5	5	N/A
19	#6, SCR SIZE	6	Toggle screen size
20	#7	7	N/A
21	#8	8	N/A
22	#9	9	N/A
23	#0	0	N/A

24	Audio	Toggle audio output	Toggle audio output
25	Video	Toggle video output	Toggle video output
26	REW	N/A	Rewind
27	FF	N/A	Fast forward
28	PREV	Previous list page	Previous clip
29	NEXT	Next list page	Next clip
30	VIDEO	Go to video page	N/A
31	AUDIO	Go to audio page	N/A
32	PHOTO	Go to picture page	N/A
33	SETUP	Go to setup page	N/A

- The Audio button is used to toggle audio output port
  This button is reserved for future use.
- The Display button is used to toggle video output port. The video output is toggled VGA, DVI, S-Video and YPbPr order. User must configure video resolution after find video output port.
- User must wait 3 second at least to change new video output mode.
- The SCR SIZE button is used for toggle video screen ratio between 16:9 and 4:3 at play time.
- This setting is applied for current playing picture or movie only.
- The VIDEO hot key is used to changing to movie navigation browser from another one . This button can be use at main navigation, music and photo browser.
- However, the button is not accepted at setup navigation browser.
- The AUDIO hot key is used to changing to music navigation browser from another one. This button can use at main navigation browser, movie browser and photo browser. This button is not accepted at setup navigation browser.
- The PHOTO hot key is used to changing to photo navigation browser from another one. This button can use at main navigation browser, movie browser and music browser. This button is not accepted at setup navigation browser.
- The SETUP hot key is used to changing setup navigation browser from another one. This button can use at all of navigation browser.

1-2. Navigation Browser

Interactive navigation browser is displayed after boot at interactive mode or press STOP button at auto play mode. Four icons of navigation in the DV-76 / 77 as below:

1. Play Movie

Go to movie navigation browser. User can select folder, file and play the movie.

2. Play Photo

Go to photo navigation browser. User can select folder, file and play the photo.

3. Play Music

Go to music navigation browser. User can select folder, file and play the music

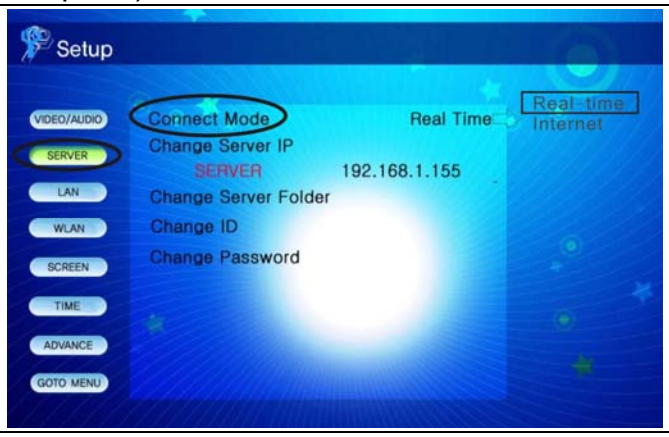
4. Setup

Go to system setup navigation browser (setup page). User can configure the system.

Each icon in browser can be searched by remote control for use UP, DOWN, LEFT and RIGHT.. After pick an icon with OK button or select key, user can go to each navigation browser.

1-3. Getting Started

1. Connect Network. (Wired LAN or Wireless LAN).
2. Connect the Video cable (VGA cable or DVI cable, S-video cable) to Panel or TV
3. Connect the Audio cable.
4. Connect the power adapter to the DC-IN socket, the system will power on automatically.
5. Configure Network server . Configure server at “Server” menu of “Setup” page (more detail see chapter3)



1: Choose Connection Mode -> Real-time or Internet
2: Setup up ID and Password if required
3: Server folder
4: IP address
5: Return to main menu

Interactive mode show main navigation browser after Power-on by remote controller. Interactive mode configured as select Disable items at Auto Run menu of Screen Setting on Setup page

Chapter 2 How to Use

2-1. DV-76 / 77 system provides three operation types

1. Stand-alone player.
2. Wide Area or Local Area advertising with internet server (http)
3. Control by rs232 at TTL level (use DV-68 control codes)

2-2. Network equipment

When you want to use the remote (Internet), on the need to use a network connection, the necessary related equipment, as follows

2-2.1. Server PC on private network

Minimum Intel Processor II 350MHz 64MB RAM.

- The faster processor is better. The better processor can play more station

2-2.2. Operating system

- Windows XP Home edition, Windows XP/Vista Professional: connect under 5 DV-7x
- Windows 2000/2003 server: connect over 10 DV-7x

2-2.3. Networking

- Ethernet: 10M/100Mbps Ethernet card
- Wireless LAN card: IEEE802.11 b/g
- Server PC must have static IP address on internet. (or NAT IP forward)

2-2.4. Internet server

.- WEB server of software : http server. Example : IIS (Windows)

- WEB server running, no need any more service program.

2-2.5. Storage kits

Useable storage device

- External storage: USB memory card, USB HDD, CF memory card
- Internal Storage: CF memory card, 2.5 inch HDD.

2-2.6. Files format

- FAT32 file system support

Note: We need special FAT32 format program to support large space HDD

2-2.7. Other requirement

Networking

- Network switch, router or Wireless LAN AP

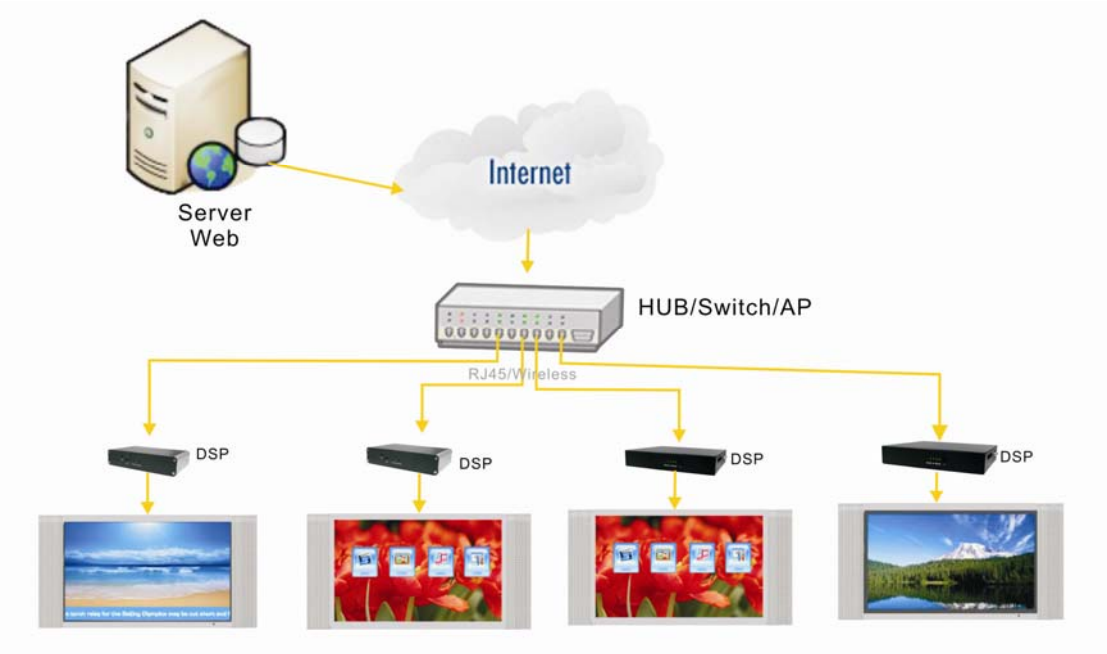
2-3. Wide area advertising with internet server

Advertising contents are stored at contents server on the Internet and the contents are copied to internal storage prior to play.

This mode operating method is best fits for chained office, restaurant, market, hospital, and museum and so on. User can control DV-7x with simple command too.

Advertising contents are stored at contents server on the internet and the contents are copied to internal storage prior to play.

2-3.1 Operating diagram



2-3-2 Installation Step

1. Set up WEB server on the internet or intranet.
2. Generate share folder to root of server.
3. Put advertising contents to share folder.
4. Create play list file ”playlist.txt” to share folder
   This file has the file list for play
5. Connection the DV-7x
6. Press AUTO button of remote controller or restart system
7. DV-7x will start play advertising contents automatically.

2-3-3 Additional information

- Handling play list file refer to 2-6-1 Handling play list of this manual
- Handling remote command refer to 2.-6-2 Handling remote command of this manual

Example

If user generate share folder name as “DS folder” of server IP 211.24.35.99 and there are test.jpg sample advertising file, computer on internet can access this file as http://211.24.35.99/ DS folder /test.jpg way at internet explorer.

Note

- This type of operation is support with CF memory card or HDD only.
- If the contents are changed at running time, the screen will show current play window. This is a normal situation, please do not power-off the system.

Additional information setting

- Adjust video output port & resolution refer to 3-1 Video & Audio of this manual
- Server configuration refer to 3-2. Network Server of this manual
- Network connection refer to 3-3 Wired Network Connection and 3.4 Wireless Network Connection of this manual

Note: DV-7x does not support domain name, please use IP address of server

2-4. Operation Mode

Operation mode is classified by how DV-7x works after power-on. Auto play mode start play advertising photo and movie automatically after power-on. Click-to-play mode show main menu after power-up and user select play item by remote controller.

2-4-1 Auto play mode

Auto play mode start playing the advertising contents after power-up automatically. User select type of auto play at Auto Run menu of Screen Setting on Setup page.

- Disable: don't use auto play mode
- All files: play all kinds of file on the storage
- Movie: play movie only
- Music: play music only
- Picture Slide: show picture with configured slide effect
- Music Slide: play picture and movies with background music

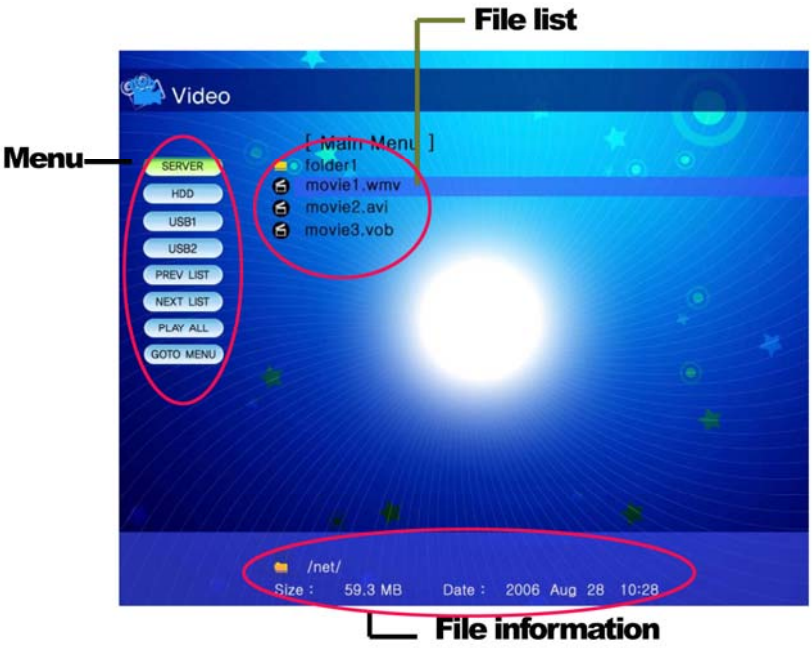
This auto play mode is default setting of DV-76 / 77.

.2-4-2. Click-to-play with remote control

User can go to each play mode by select the icon on the main navigation browser or press VIDEO/AUDIO and PHOTO hot button of remote controller.

2-4-2-1. Play Movie

User can go to movie navigation browser by select Movie icon on the main navigation browser or press VIDEO hot button of remote controller.



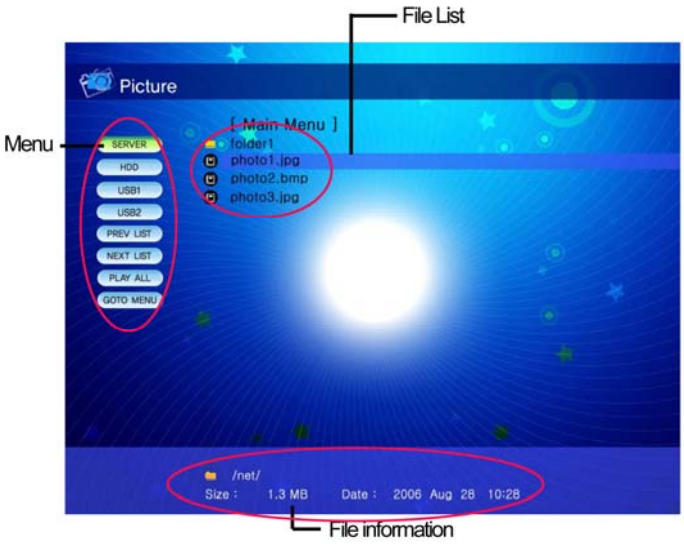
On the movie navigation browser LEFT and RIGHT button and key is used for change menu bar and file list. UP and DOWN button and key is used for change the menu on bar or file on file list. The SEL key and OK button is used for select a menu or file.

The menus on menu bar have following purpose.

- SERVER: select the folder of server PC at real-time streaming
- HDD: select the HDD or CF memory card
- USB1, USB2: select the USB memory
- PREV LIST: show the previous page of file list
- NEXT LIST: show the next page of file list
- PLAY ALL: play all contents on file list window
- GOTO MENU: go to main navigation browser

2-4-2-2 Play Picture

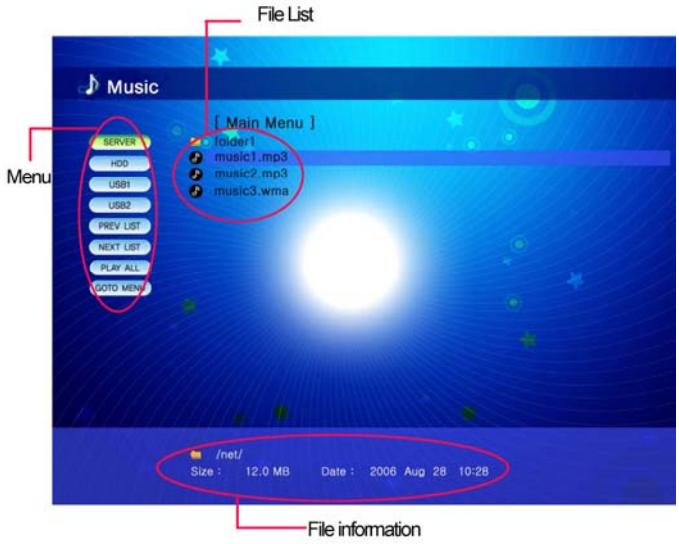
User can go to Picture navigation browser by select Photo icon on the main navigation browser or press PHOTO hot button of remote controller. All of button and key are used as same functionality with movie navigation browser.



2-4-2-3 Play Music

User can go to movie navigation browser by select Music icon on the main navigation browser or press AUDIO hot button of remote controller.

All of button and key are used as same functionality with movie navigation browser.



2-5 Interactive

Command signals to provide RS232 999 group, the file name please use 000 ~ 999. The “000” to set the main menu (MENU). In the main screen to set the Advanced Settings option in DSP mode settings.

Play content files stored in accordance with the order of automatic cycle

Customers can demand, select the appropriate manner and to adjust

- **Repeat Mode:**
  The system will automatically loop play media content files.
- **Menu Mode:**
  The first track (Menu track) is 000, which is the looping track.

The system broadcast “menu Track” circulating, till getting the track number which is input from RS-232 interface. Like as: After playing selected track (001.mpg), the system will loop back to Menu track.

- **Standby Mode**

After the system boot the system state is sleep mode does not have any action until the detected signal system will be relevant to start playing. After playing the system will show sleep mode waiting for the next signal input.
This mode can be combined with motion detection device used in a special advertising.

- **Continue mode**

System continue playing a file, until the system has made new input.

2-6 Handling play list

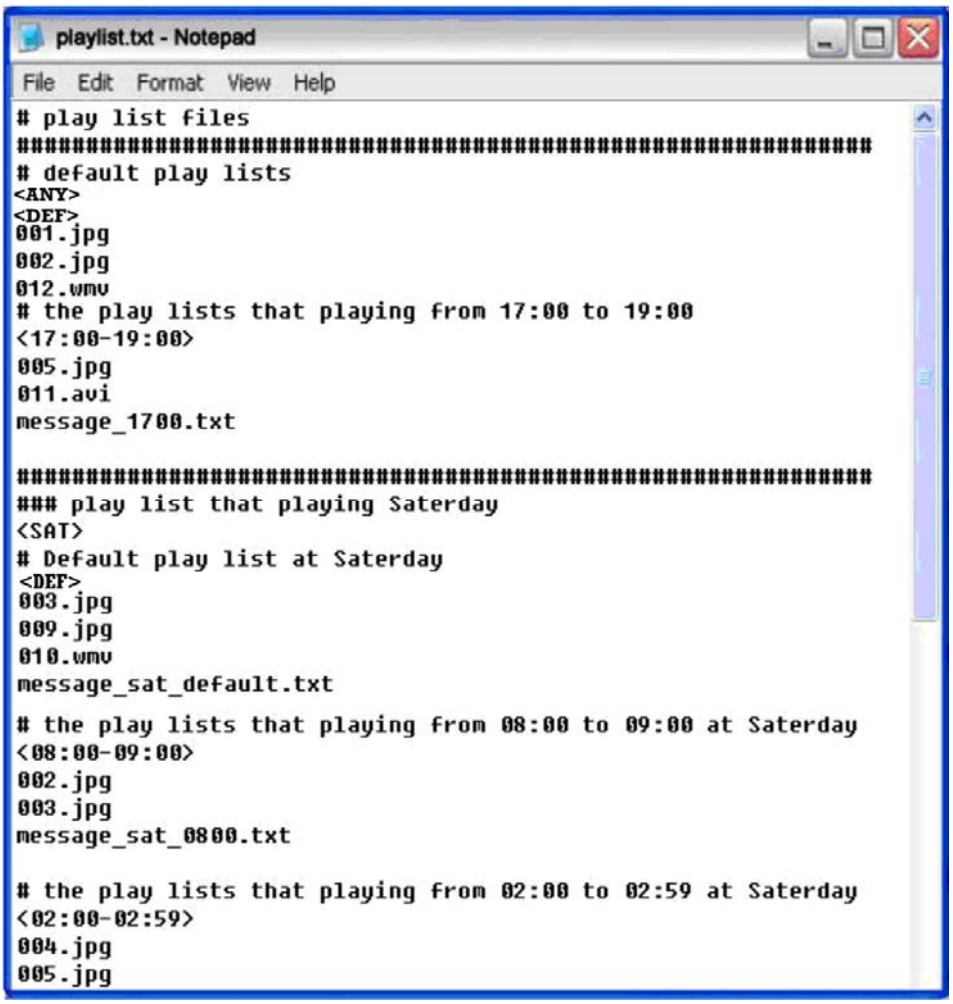
2-6-1 Handling play list by default

DV-7x handling advertising contents by use playlist.txt file on root of storage device.

Play list file list-up all files to play at the station and time, week and week-time scheduling information too.

Create play list file

User can create play list file by use text editor such as Notepad on Windows XP. The # mark at the first of line present a comment.



- Play list file is used for list-up the file and scheduling information at stand alone display, real-time streaming with server PC and wide area advertising with internet server operation type.
- DV-7x use “mssage.txt” file as default advertising description message file. But advertiser can specify another name of message file. The message file name must start from “message” initial character. You can use message_xxx.bmp files too.
- Week and time scheduling information are assigned by week and time directive. The week Directive are <MON>, <TUE>, <WED>, <THU>, <FRI>, <SAT>, <SUN> and the time directive Can be assign <00:00-24:00> way. The time can be assigned from 0 hour to 24 hour.
- Play list file support following 4 types of play list. Play list file must have at least one default play list, and if advertiser don’t want schedule, then implement default play list only.

Default play list

- List-up the file that playing without scheduling. If there is no schedule in specified DV-7x play list then the file in default play list will be playing. Default play list do not have any week or time directive.

Time Scheduling playlist

- list-up the file that playing at assigned time period. The scheduling play can be assigned by use time directive and file list.
- Advertiser can specify special message advertisement too.

Week Scheduling play list

- DV-7x can play contents by week day order. Advertiser can assign week scheduling by use week directive and file list.
-

Week-Time Scheduling play list

Advertiser can assign week-time scheduling by use time directive and file list at below of week directive.

Reference

- Play list file decide play order too
- The filename can include space character

2-6-2 Schedule specified date

Setup the playlist for schedule specified date , user need create a new file and assign filename: yyyymmdd.txt.

Example: To January 1, 2010 broadcast special film, you need to edit a schedule file name **20100101.txt**
2010-01-01 day will not play playlist.txt, but direct broadcast 20100101.txt content

Chapter3. System Configuration

User can configure the system at the Setup navigation browser (setup page) go to Setup page by press setup icon on the main navigating browser or press SETUP button of remote controller. If your system are playing photo or movie, press STOP button prior to configure the system.

Please refer appendix A. for tree of setup page.

3-1. Video & Audio

The video and audio can be configured by select VIDEO/AUDIO menu. Following picture show the video and audio configuration window.

Note: The response time after set the configuration will be late for moment, because the system to store new configuration data to memory

3-1-1. Video Configuration

User can configure brightness, contrast, saturation and video output port. Video output is depending on which video cable you used. DV-7x has VGA, DVI, S-Video connector and YPbPr component. Header (inside) in board. Standard outputs are be configured as one of following items.

- DV-76 has VGA and DVI
- DV-77 has VGA and HDMI
- VGA : 640x480, 800x600, 1024x768, 1280x768, 1280x1024, 1366x768
- 1440x900, 1920x1080 and 1920x 1200

The YPbPr component Output is board level product only, this port is not supported on Digital Signage Box.

Default Setting: Video Output : VGA, 1280x1024.

3-1-2. Audio Configuration

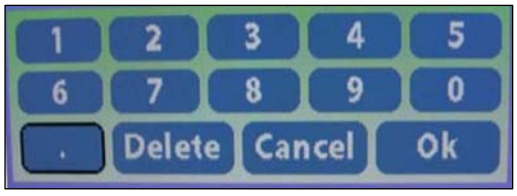
DV-7x support stereo output only now.

3-2. Network Server

The network server can be configured by select SERVER menu.
Following picture show the server configuration window.

DV-7x supports several kinds of server connection modes, the real-time streaming, and internet server. The server configurations are depends on this connection mode.
User must configure following items for each server connection.

	Internet	Use WEB server on the internet
Server IP	Server must configure server IP address for each connection. User can change IP address by use virtual keyboard.	
Server Folder	The folder name is used on real-time and internet server connection. User can change folder name by use virtual keyboard.	
ID	This ID is used at real-time streaming connection to access server PC. User can change ID of server PC by use virtual keyboard.	
Password	This Password is used at real-time streaming connection to access server PC. User can change Password of server PC by use virtual keyboard	



[Figure] Virtual Keyboard for change IP address

[Figure] Virtual Keyboard for change folder name, user ID and password

3-2-1. Internet WEB server

The internet WEB server operation can be built as following steps.

1. Setup WEB server
   Please refer 2.3 Wide area advertising with internet server more detail information.
2. Setup the SERVER field on DV-7x
   - Connect Mode to Internet
   - Server IP to WEB server IP address
   - Server Folder to the name of shared folder

3. Restart system
   User will see following information while update advertising contents

Note: Do not power off or plug out the CF memory card while update advertising contents

3-3 Wired Network Connection

The wired network can be configured by select LAN menu. Following picture show the wired network configuration window.

3-4. Wireless Network Connection (optional hardware)

The wireless network can be configured by select WLAN menu. Following picture show the Wireless network configuration window.

Wireless LAN Support
Enable or disable Wireless LAN interface.

Wireless LAN Setting

Setting the wireless LAN information, such as ESSID、channel number and security.

	Mode Select wireless LAN working mode. DV-7x supports Managed and Ad-hoc mode operation. - SSID Wireless network name - Channel Channel number of wireless network - WEP Key Support, WEP Key Configure to WEP key support

3-5. Screen Setting

On the Screen Setting menu user can configure system operating mode, slide effect and Caption. Following picture shows screen setting window.

In this window, user can restart auto run by select Auto Run Restart items at end of menu.

3-5-1. Operating Mode Configuration

Operation mode is configured at Auto Run menu of Screen Setting on Setup page.

Auto play mode start playing the advertising contents after power-up automatically. User can select type of auto play at Auto Run menu of Screen Setting on Setup page.

Function	Setup value	Description
Auto Run	Disable	Don't use auto play mode
	All files	play all kinds of file on the storage, default setting
	Movie	play movie only
	Music	play music only
	Picture Slide	show picture with configured slide effect
	Music Slide	play picture and movies with background music
Slide Effect	Random	Slide effect is configured at Slide Effect menu of Screen Setting on Setup page.
	Cross fade	
	Rightward	
	Leftward	

		Upward	
		Increase	
		Decrease way	
	Transition Time	3 sec	User can select slide effect Transition Time as second order too.
Caption	Enable/ Disable		User can use message caption for immediate advertising and information display, following picture shows display windows with advertising message
	Cap. Position	Top/Bottom	
	Cap. Color	Message Color	Red, Orange, Yellow, Green, Blue, Deep blue, Violet, Black and White
	Cap. BG color	Background Color	Red, Orange, Yellow, Green, Blue, Deep blue, Violet, Black and White
	Cap. Scroll	Scroll speed of message	Quickly, Normally, Slowly
Auto Scaling	Enable/ Disable		Auto scaling fit the picture and movie to video output resolution. If auto scaling is disabled, the actual video image size is displayed on the screen. If auto scaling is enabled, the video image was displayed on full screen. Auto scaling is enabled as a default.
Auto Run Restart			

Auto play mode is default setting of DV-7x.

Interactive mode show main menu after power-up and user select play item by remote controller button. Interactive mode configured as select Disable items at Auto

Run menu of Screen Setting on Setup page.

Message caption file name is message.txt; it can be created by text editor, such as Notepad on

Windows XP. After create message.txt file it must be put into root of shared folder.

Note: The maximum number of advertising message characters is 256 characters.

3-6. Time

On the TIME menu user can configure current time, NTP server, time zone and system on/off

Item	Function	Descriptions’

Cur. Time	Setup current time	User can setup current time by manually or get it from NTP server. The time setting method will be selected with Cur. Time Setting menu.
Cur. Time Setting	Setup NTP server and UTC	If user configure time setting with NTP, network timing protocol, server to get current time, user must set NTP server and UTC. UTC is Universal Time Coordinated.
Time Display	Display current time	DV-7x can display current time on the screen. User can select display location left-top, left-bottom, right-top or right-bottom.
AUTO ON/OFF	Auto power on/off	User can enable or disable auto power on/off. User must set on time and off time prior to enable auto power on/off.

Note: Don't make overlap with message caption. If the time display and message is overlapped, the message can be broken.

3-7. Advanced Setup

On the Advanced Setup menu user can configure screen saver enable or disable, file sort, OSD message on/off, language and software upgrade.

Function	Descriptions
Screen Saver	Setting screen saver. Screen saver work after 5,6,7,8, or 10 minute from no use of system. The screen saver is disabled as default.
File Sort	User can sort the play list file as name, date and size. The name is default file sorting method.
OSD message on/off	User can enable or disable the OSD message by configure OSD Message menu. OSD message is disabled as a default.
Language support	The system support Korean and English. User can select one of language on Language menu. After change language, system will restart automatically
Font Size	This menu set the size of font for message and clock display. User can choose "Large". "Medium" or "Small" font size.
Return to initial state	This menu set all value on the setup page to default setting value
Software Upgrade	

Software Upgrade

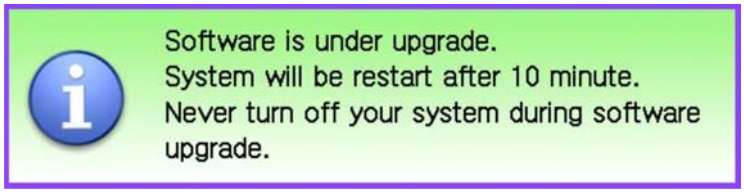
DV-7x supports software upgrade. User can upgrade the software with following steps.

1. Get the upgrade image "DSSImage" and copy this file to USB memory.

2. Insert USB memory to DS and turn-on the system.
3. Go to ADVANCE menu on Setup page, and select S/W Upgrade
4. Select upgrade firmware
5. Select Ok

Press OK button to start S/W upgrade.
Do not turn off the power while S/W upgrade.
System restart after finish S/W upgrade
Current Ver : 1.0
Upgrade Ver : 1.1
Ok
Cancel

6. Waiting for finish update, the update will takes around 10 minute.
7. System will restart automatically after upgrade and show main navigation windows or start play advertising contents.



Note: Don’t power off the system being software upgrade

Chapter 4 DSPCONFIG

This file is used for control the player from remote server.

- This is stand for dspconfig.txt file on the remote server. This is used for control the player remote server.
- The dspconfig.txt file must be stored at the same folder with playlist.txt file.
- Hi-player check dspconfig.txt file at each 1 mi nute time interval. (If the “Contents Updat e Time” is configured, the check time is depend on this “Contents Update Time”).

4-1. DSPCONFIG Command (Basic Config)

4-1-1 Setup Video/Audio

Setup Video/Audio setting value on the player setup page.

Item	Editor	Example
Setup Brightness	■ set dsp video brightness {0~31}	Ex: Set video brightness to 15 ■ set dsp brightness 15
Setup Contrast	■ set dsp video contrast {0~31}	Ex: Set video contrast to 16 ■ set dsp video contrast 16
Setup Saturation	■ set dsp video saturation {0~31}	Ex: Set video saturation to 17 ■ set dsp video saturation 17 :
Setup Video Output	■ set dsp video output [VALUE]	Ex: Set HDMI Video output and resolution1080i ■ set dsp video output hdmi_1080i

VALUE: Video resolution see below table

Video Outpot	Resolution
Composite YPbPr	composite_640x480, component_480p, component_720p, component_1080i, component_1080p,
vga	vga_640x480, vga_800x600, vga_1024x768, vga_1280x768, vga_1280x1024,vga_1366x768,vga_1440x900, vga_1440x1050, vga_1680x1050, vga_1920x1080,vga_1920x1200
Dvi	dvi_480p, dvi_576p, dvi_720p, dvi_1080i, dvi_1080p, dvi_640x480, dvi_800x600, dvi_1024x768, dvi_1280x1024, dvi_1366x768, dvi_1400x1050
Hdmi	hdmi_480p,hdmi_720p,hdmi_1080i,hdmi_1080p,hdmi_640x480, hdmi_800x600, hdmi_1024x768, hdmi_1280x1024, hdmi_1366x768 hdmi_1400x1050

Item	Editor	Example
Setup Audio Volume	■ set dsp audio vol {0~31}	Ex: Set audio volume to 20 ■ set dsp audio vol 20

Setup Audio Output	■ set dsp audio output {stereo/surround}	**Ex**: Set audio output to Stereo(2Ch) ■ set dsp audio output stereo **Ex**: Set audio output to surround (5.1Ch,Optical) ■ set dsp audio output surround

4-1-2 Setup Server

Setup Server setting value on the player setup page

Item	Editor	Example
Setup Server IP Address Value	set dsp server ip “{ip address}” Note: The dsp will not connecte to origin server, If you change server ip.	**Ex:** Set Connect Server IP address value to 192.168.1.1 ■ set dsp server ip “192.168.1.1”
Setup Server Folder Value	set dsp server folder “{folder name}”	**Ex:** Set Connect Server Folder value to share folder ■ set dsp server folder “share” :
Setup Server Port Value	set dsp server port {num}	**Ex:** Set Connect Server value to share 1234 ■ set dsp server port 1234

4-1-3 Setup LAN

Setup Wired Network(LAN) setting value on the player setup page.

Item	**Editor**	**Example**
Setup LAN IP Address Configuration	set dsp lan ip {auto/fix}	**Ex**: Set LAN IP setting to dynamic ■ set dsp lan ip auto configuration(DHCP) **Ex**: Set LAN IP setting to static configuration ■ set dsp lan ip fix :
Setup LAN IP Address Value	set dsp lan ipaddress “{ip address}”	**Ex:** Set LAN IP address value to 192.168.1.100 ■ set dsp lan ipaddress “192.168.1.100”
Setup LAN Subnet Mask Value	set dsp lan subnet “{subnet mask}”	**Ex:** Set LAN Subnet mask value to 255.255.255.0 ■ set dsp lan subnet “255.255.255.0” :
Setup LAN Gateway IP	set dsp lan gateway “{gateway address}”	**Ex**: Set LAN Gateway to 192.168.1.1 ■ set dsp lan gateway “192.168.1.1”

Setup LAN DNS Configuration	set dsp lan dns {auto/fix}	**Ex**: Set LAN DNS setting to dynamic configuration (DHCP). ■ set dsp lan dns auto **Ex**: Set LAN DNS setting to static configuration ■ set dsp lan dns fix
Setup LAN DNS Value	set dsp lan dnsaddress “{dns address}”	**Ex:** Set LAN DNS address value to 192.168.1.1 ■ set dsp lan dnsaddress “192.168.1.1”

4-1-4. Setup Wireless LAN(WiFi)

Setup Wireless Network(WiFi) setting value on the player setup page.

Item	**Editor**	**Example**
Setup Wiress LAN(WiFi) Support	■ set dsp wlan support {enable/disable}	**Ex:** Enable Wireless LAN. ■ set dsp wlan support enable **Ex:** Disable Wireless LAN. ■ set dsp wlan support disable
Setup WLAN IP Address Configuration	■ set dsp wlan ip {auto/fix}	**Ex:** Set WLAN IP address setting to dynamic configuration(DHCP). ■ set dsp wlan ip auto **Ex:** Set WLAN IP address setting to static configuration ■ set dsp wlan ip fix
Setup WLAN IP Address Value	■ set dsp wlan ipaddress “{ip address}”	■ **Ex** Set WLAN IP address value to 192.168.1.100 ■ set dsp wlan ipaddress “192.168.1.100”
Setup WLAN Subnet Mask Value	■ set dsp wlan subnet “{subnet mask}”	**Ex:** Set WLAN Subnet mask value to 255.255.255.0 ■ Set dsp wlan subnet “255.255.255.0”
Setup WLAN Gateway IP	■ set dsp wlan gateway “{gateway address}”	**Ex:** Set WLAN gateway IP value to 192.168.1.1 ■ set dsp wlan gateway “192.168.1.1”
Setup WLAN DNS Configuration	■ set dsp wlan dns {auto/fix}	**Ex:** Set WLAN DNS setting to dynamic configuration. ■ set dsp wlan dns auto **Ex:** Set WLAN DNS setting to static configuration. ■ set dsp wlan dns fix
Setup WLAN DNS Value	■ set dsp wlan dnsaddress “{dns address}”	**Ex:** Set WLAN DNS value to 192.168.1.1 ■ set dsp lan dnsaddress

		“192.168.1.1”
Setup WLAN Operation Mode	■ set dsp wlan mode {managed,adhoc}	**Ex:** Set WLAN operation mode to managed ■ set dsp wlan mode managed **Ex:** Set WLAN operation mode to adhoc ■ set dsp wlan mode
Setup WLAN SSID	■ set dsp wlan ssid “{ssid}”	**Ex:** Set WLAN SSID to wlan ■ set dsp wlan ssid “wlan”
Setup WLAN Channel	■ set dsp wlan channel {1~13}	**Ex:** Set WLAN channel to 9 ■ set dsp wlan channel 9 : Set WLAN channel to 9
Setup WLAN WEP key	■ set dsp wlan wepkeysupport {enable, disable}	**Ex:** Enable wepkey ■ set dsp wlan wepkeysupport enable **Ex:** Disable wepkey ■ set dsp wlan wepkeysupport disable
Setup WLAN wepkey value	■ set dsp wlan wepkey “{wepkey}” ps: support WEP 64bit	**Ex:** Set wepkey value to 0123456789 ■ set dsp wlan wepkey “0123456789”

4-1-5. Setup Screen

Setup Screen setting value on the player setup page.

Item	**Editor**	**Example**
Setup Photo Slide Effect	set dsp screen slide {disable/random/crossfade/rightward/leftward/	**Ex:**Set slide effect to random. ■ set dsp screen slide random
Setup Photo Transition Time	set dsp screen transitiontime {3/5/10/15/20/30/60}	**Ex:**Set transition time to 5 second. ■ set dsp screen transitiontime 5
Setup Caption	set dsp screen caption {enable/disable}	**Ex:**Enable Caption ■ set dsp screen caption enable **Ex:**Disable Caption set dsp screen caption disable
Setup Caption Location	set dsp screen captionposition {top/bottom/left/right} set dsp screen captionposition {top±num/bottom±num/left±num/right±num}	**Ex:**Set caption location to top. ■ set dsp screen captionposition top **Ex:**Set caption location to bottom upper 10 pixels ■ set dsp screen captionposition bottom-3

Setup Caption Color	set dsp screen captioncolor {red/orange/yellow/green/blue/deepblue/violet/black/white}	**Ex:**Set caption color to yellow. ■ set dsp screen captioncolor yellow :
Setup Caption Background Color	set dsp screen captionbgcolor {red/orange/yellow/green/blue/deepblue/ violet/black/white/transparent}	**Ex:**Set caption background color to transparent. ■ set dsp screen captionbgcolor transparent
Setup Caption Scroll Speed	set dsp screen captionscroll {quick/normal/slow}	**Ex:**Set caption scroll speed to slow ■ set dsp screen captionscroll slow
Setup Auto Scaling	set dsp screen autoscaling {enable/disable}	**Ex:**Enable auto scaling ■ set dsp screen autoscaling enable **Ex:**Disable auto scaling ■ set dsp screen autoscaling disable :

4-1-6. Setup Time

Setup Time setting value on the player setup page.

Item	**Editor**	**Example**
Setup Time Update	■ set dsp time set {manual/ntp}	**EX:** Update the time by manual input ■ set dsp time set manual **Ex:** Update the time with NTP server by automatically. ■ set dsp time set ntp
Setup NTP Server	■ set dsp time ntpserver {bora/kriss/nist/window/apple} ■ set dsp time ntpserver “{time server URL}”	**Ex:** Set NTP server to windows.com ■ set dsp time ntpserver window **Ex:** Set NTP server to time.bora.net ■ set dsp time ntpserver “time.bora.net”
Setup Time zone	■ set dsp time zone {-12~+12}	**Ex:** Set time zone to +8 ■ set dsp time zone +8
Setup Time Display Location	■ set dsp time display {disable/lefttop/righttop/leftbottom/rightbottom}	**Ex:** Set time display location to right-top location. ■ set dsp time display righttop
Setup Time Display Color	■ set dsp time color {red/orange/yellow/green/blue/deepblue/violet/black/white}	**Ex:** Set time display color to yellow ■ set dsp time color yellow
Setup Time Display Background Color	■ set dsp time bgcolor {red/orange/yellow/green/blue/deepblue/violet/black/white/transparent}	**Ex**: Set time display background color to transparent ■ set dsp time bgcolor transparent transparent
Setup Auto Player Power On/Off	■ set dsp time status {on/off}	**Ex:** Enable auto power On/Off ■ set dsp time status on **Ex:** Disable auto power On/Off ■ set dsp time status off
Setup Player Power On Time	■ set dsp time on {HH:MM}	**Ex:** Set player power-on time to 09:10 ■ set dsp time on 09:10

Setup Player Power Off Time	■ set dsp time off {HH:MM}	**Ex:** Set player power-off time to 22:30 ■ set dsp time off 22:30

4-1-7. Setup Advanced Information

Setup Advanced setting value on the player setup page.

ITEM	**Editor**	**Example**
Setup Screen Saver	■ set dsp adv screensaver {5/6/7/8/9/10/disable}	**Ex:** Enable screen saver and the waiting time is 8 minute ■ set dsp adv screensaver 8 **Ex:** Disable screen saver ■ set dsp adv screensaver disable
Setup File Sort Order	■ set dsp adv filesort {name/date/volume}	**Ex:** Sort the file as date order ■ set dsp adv filesort date
Setup OSD Display	■ set dsp adv osd {enable/partial/disable}	**Ex:** Enable OSD display ■ set dsp adv osd enable **Ex:** : Enable OSD display partially ■ set dsp adv osd partial **Ex:** : Disable OSD display ■ set dsp adv osd disable
Setup Language Support	■ set dsp adv language {country/english}	**Ex:** Set language to English ■ set dsp adv language english PS: The new language applied after reboot the playe
Setup Font Size	■ set dsp adv fontsize {small/normal/big}	**Ex**: Use small font ■ set dsp adv fontsize small

4-2. DSPCONFIG Command II (Advanced Config)

4-2-1. Player Control

Item	**Editor**	**Example**
Time Based Audio Volume Control	■ set audio vol {0~31} {HH:MM}	**Ex:** Set audio volume to 15 at 09:00 ■ .set audio vol 15 09:00 PS: Support up to 16 number of audio volume control time setup
Week Day Based Player Power Off	■ set dsp wday {sun/mon/tue/wed/thu/fri/sat } off	**Ex:** Set player to power-off at Sunday. ■ .set dsp wday sun off. PS: User can set several number of power-off week day.
Reboot the System	■ set dsp reboot on 0	**Ex:**Set to player reboot. ■ set dsp reboot on 0 PS: Player will not reboot again before dspconfig.txt file

		modification
Restart Autoplay	■ set dsp autoplay restart 0	**Ex:** Set player to restart autoplay. ■ set dsp autoplay restart 0 PS: Player will not restart again before dspconfig.txt file modification
Content Update Time Interval Control	■ set dsp contents up {ss}	**Ex:** Update playlist.txt, dspconfig.txt, message.txt file at every 30 second. ■ set dsp contents up 30 PS: The default update time interval is 1 minute(60 second)

4-2-2. Logging Message

The logging message can be upload to the server to user notify player operation.

The logging message file information is followed.

■Hi-player-DSP have two logging message file,

1. AABBCCDDEEFF_2008_08_25.txt : The log file have the logging message for play information of contents file(“Content File Play Information Log”)
2. AABBCCDDEEFF_2008_08_25_filestatus.txt.: The log file have the logging message for contents file download and remove information(“Contents File Status Log”).

■The field of AABBCCDDEEFF at file name is MAC address of player.
The field of 2008_08_25 is the date of file creation.

Item	**Editor**	**Example**
Setup Logging Message Support	set dsp log status {on/off}	**Ex:**Set player upload logging message to server ■ set dsp log status on **Ex:**Set player do not upload logging message to server. ■ set dsp log status off
Setup Logging Message Folder	set dsp log folder “{folder name}”	**Ex:** Set player upload logging message to aabbcc/ccdd folder ■ set dsp log folder “aabbcc/ccdd” If user do not set the logging folder, the player will upload log information to log/{site name} of server directory.
Setup Logging Message Upload Time	set dsp log up {ss}	**Ex**: Set “Content File Play Information Log” update time interval ■ set dsp log up 3600 If there no setup update time, The player update the log file two times at each day. The “Contents File Status Log” is generated at the new file download or remove time.

4-2-3. Player Live Status

The player live status can be upload to the server to user notify player operation.

The live status file information is followed.

■ The format of live status file is dspliv e_AABBCCDDEEFF, in here AABBCCDDEEFF is MAC address of player.

The contents of live file

Firmware Version = 2.43 Total Disk Space = 968 MB Available Disk Space = 869 MB Brightness = 16 Contrast = 16 Saturation = 16 Video Output = VGA 800x600 Audio Volume = 15 Audio Output = Surround Server IP Address = 192.168.1.3 Server Connect Folder = c2 Server Connect Port = 80 Server Log Folder = c2/log Server Live Folder = c2/live Lan IP = Auto Lan IP Address = 192.168.1.40 Lan Subnet Mask = 255.255.255.0 Lan Gateway = 192.168.1.1 Lan DNS = Auto Lan DNS Address = 192.168.1.1 WLan Support = Disable Photo Effect = Random Photo Transition Time = 3 Sec.	Caption Support = Enable Caption Position = Bottom Caption Color = Black Caption BG Color = White Caption Speed = Fast Auto Scaling = Enable Time Set = NTP NTP Server = time.apple.com Time Zone = +8 Time Display = Right Top Time Color = Blue Time BG Color = Transparent Auto On Off = Disable On Time = 00:00 Off Time = 00:00 Screen Saver = Disable File Sort = Name Use OSD = Enable Language = Chinese Font Size = Small

Item	Editor	Example
Setup Live Status Support	■ set dsp live status {on/off}	**Ex:** Set live status file upload to server ■ set dsp live status on **Ex:** Do not upload live status file to server ■ set dsp live status off
Setup Live Status Upload Folder	set dsp live folder “{folder name}” ■	**Ex:** Set live status upload folder to aabbcc/ccdd at server. ■ set dsp live folder “aabbcc/ccdd” The default upload folder is live/{site name} at server

Setup Live Status Update Time	■ set dsp live up {ss}	**Ex:** Set live status file update time interval to 15 seconds ■ set dsp live up 15 If user do not set live status update time, the default live status file update time interval is 1 minute(60 seconds).

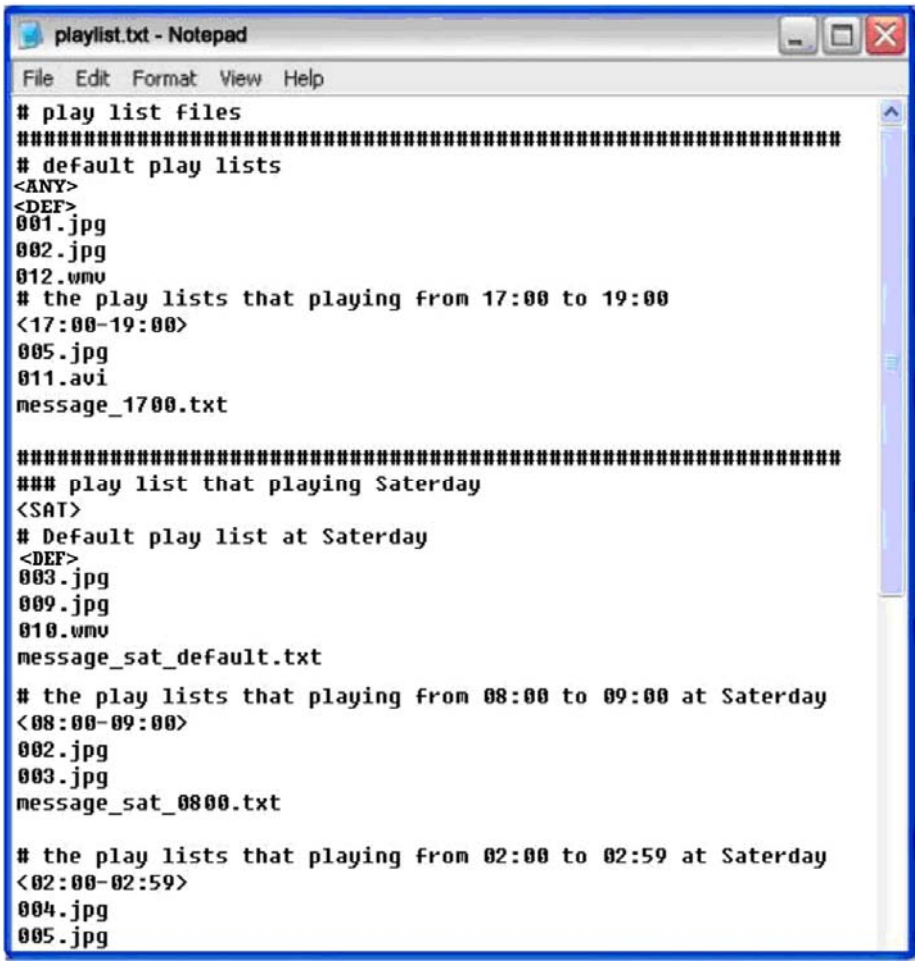
4-3. Serial Port Control

Item	**Editor**	**Example**
Define Macro	■ define MACRO <Value>	**Ex:** Set SERIAL_TX to 41,42,43,44,45 ■ define SERIAL_TX <41,42,43,44,45> :
Setup Serial Port Speed (Interactive-DS Only)	■ set com init baudrate {300/1200/2400/4800/9600/19200/38400/57600/115200}	**Ex:** Set serial port speed to 4800bps ■ set com init baudrate 4800 :
Setup Serial Port Data Bit (Interactive-DS Only)	■ set com init data {5/6/7/8}	**Ex:** Set serial port data bit to 8 bits ■ set com init data 8
Setup Serial Port Parity Bit (Interactive-DS Only)	■ set com init parity {0/1/2} ■ 0: no parity, 1:odd parity, 2:even parity	**Ex:** Set to no parity bit support ■ set com init parity 0 :
Setup Serial Port Stop Bit (Interactive-DS Only)	■ set com init stop {1/2}	**Ex:** Set serial port stop bit to 1 bit ■ set com init stop 1 :
Set Serial Port Transmission Interval (Interactive-DS Only)	■ set com init interval {ms}	**Ex:** Set delay time to 10ms ■ set com init interval 10 :
Set Serial Port Data Transmission (Interactive-DS Only)	■ set com tx/mon/tue/wed/thu/fri/sat/sun {HH:MM} {data} tx: every day implementation. weekday(mon/tue/wed/thu/fri/sat/sun): only the designated day will be the implementation. - {data} can be have Ascii, hexadecimal and Macro. - Use “ “ for Ascii data, < > for Hexadecimal data and % % for Macro. - User can set 16 different mode at different time.	**Ex:** Send Ascii data a,b,c,d,e character to serial at 09:00 ■ set com tx 09:00 “abcde” **Ex**: Send hexadecimal data 0x41, 0x42, 0x42, 0x43, 0x44, 0x45 at 10:30 ■ set com tx 10:30 <41,42,43,44,45> **Ex:** Send Macro SERIAL_TX data at 12:00, for example the SERIAL_TX is configured to <41,42,43,44,45>, player send 0x41, 0x42, 0x43, 0x44 and 0x45 to serial port at 12:00 ■ set com tx 12:00 %SERIAL_TX%

4-4. Playlist

1. The file that have information for playing on the player.
   1.1. The playlist file name is “playlist.txt”.
   1.2. . The playlist can be stored at following location.
   - ■ The root folder of storage device (CF, IDE, or USB) for standalone operation.
   - ■ The internet server folder for internet connection operation.

2. The inside of playlist file
   This is standard example of playlist file.



(1). Week Directive

- ■ Possible Directive : <SUN> <MON> <TUE> <WED> <THU> <FRI> <SAT> <ANY>
- ■ <SUN> <MON> <T UE> <WED> <THU> <FRI > <SAT> stand for the play list o n Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday.
- ■ <ANY> stand for the play list that playing as default when there are no week directive.

(2). Time Directive

- ■ Possible Directive : <HH:MM-HH:MM> <HH:MM> <DEF>
- ■ The time directive is depend on week directive on the previous line.
- ■ <HH:MM-HH:MM> stand for play list that pl aying from specified period. For ex ample, <12:00-13:00> stand for the play list that playing from 12:00 to 13:00.
- ■ <HH:MM> is used for play just one time at specified time. For example, <13:00> used for list up the file that playing just one time at 13:00.

- <DEF> stand for the play list that plying as default when there are no time directive.

(3). Special Directive

- Possible Directive : <BGM>
- <BGM> can be used after ti me directive. This directive background mode in this time period. The movie is ignored at playlist and play photo only with background music.
- # stand for comment for explanation
- .

3. Control the Contents

3.1. Contents list can be written bottom of time directive.

3.2. The media contents c an be movie, photo, music, message file and caption file(.smi extension).

3.3. The all of the contents file name can be have full PAT H information. If there are no PATH information, the folder will be d efault PATH on server folder. For example, if the server IP address is 10. 10.10.10, and the server folder name is “DS folder”, the contents are stored following location.

- aaa.avi : http://10.10.10.10/DS folder/aaa.avi
- data/01/bbb.avi : http://10.10.10.10/data/01/bbb.avi
- data/01/ccc.jpg|004:music/03/ddd.mp3 : http://10.10.10.10/data/01/ccc.jpg + http://10.10.10.10/music/03/ddd.mp3

3.4 User can give play options for all m edia contents. The “|nnn: ” is used for give play option. The “nnn” can be following code number.

4. Media Contents Play Options

3.1. Set Play Start Time
- filename|001:MMDDhhmm
- example : a.avi|001:07010900 -> Start play a.avi at 1, Jul 09:00.

3.2. Set Play Stop Time
- filename|002:MMDDhhmm
- example : a.avi|001:07311800 -> Stop play a.avi at 31, Jul 18:00

3.3. Set Continuous Playing Time
- filename|003:ssss
- this option is only for photo
- example : b.jpg|003:0060 -> play b.jpg file while 60 seconds.

3.4. Set BGM File
- filename|003:ssss |004:BGMfilename
- this option is only for photo.
- the continuous time must be configured.
- example : b.jpg|003:0060|004:c.mp3 -> play b.jpg file while 60 seconds with play back ground music c.mp3

3.5. Enable/Disable Playing
- filename|005:0(or 1)
- this option control play or not for media file.
- this option is used for do not remove file from storage even do not play.
- example : a.avi|005:0 -> play a.avi file
- eample .avi|005:1 -> do not play a.avi file

3.6. Set Slide Effect
- filename|007:ee
- this option is only for next media file is photo.
- set slide effect between current contents and next contents.

- The “ee” can be have following code number
  - ✓ 01: Not Use
  - ✓ 02: random
  - ✓ 03: crossfade
  - ✓ 04: Rightward
  - ✓ 05: Leftward
  - ✓ 06: Upward
  - ✓ 07: Increase
  - ✓ 08: Decrease

Appendix A. FAQ

1. How can I get best quality photo display?

User must use same size picture with screen size. If user use 1366x768 screen size at 42 inch LCD display, the 1366x768 sized picture have best quality.

User can change picture size by use some tool. Manufacture don't provide such kind of tool.

2. How can I set Wireless LAN?

If you have Wireless LAN access point, you can set operating mode to managed and set ESSID, channel number too. The IP address can be set to static or dynamic way.

If you don't have Wireless LAN access point, and want connect DV-7x with PC by point to point, user must set operating mode to Ad-Hoc, and set ESSID, channel number to same with the PCs. and set the IP address to static way.

AppendixB Trees of Setup Page

Level 1	Level 2	Level 3	Default
Video/Audio	Brightness		
	Contrast		
	Saturation		
	Video Output		VGA 1280x1024
	SD		
	HD YPbPr		
	VGA	800x600, 1024x768, 1280x1024, 1366x768	
	HD DVI		
	Audio Output	Stereo	
Server	Connect Mode	Internet	
		SKT LOVIEW	
		KT ALLPOTS	
	Change Server IP		192.168.1.40
	Change Server Folder		User define
	Change ID		User define
	Change Password		No use
LAN	IP Address	Auto	Fixed Auto
	DNS server	Auto	Fixed Auto
	Network Status	Connect, Disconnected	
	PING Test		
WLAN	Wireless LAN Support	Enable, Disable	Disable
	Wireless LAN Setting	Mode, ESSID, Channel, WEP Key	Managed mode SSID : user define WEP : user define
	IP Address	Auto,	Fixed Auto
	DNS Server	Auto	Fixed Auto
	Network Status	Connect, Disconnected	
	PING Test		
	Auto Run	Disable	
		All Files, Movie, Music, Photo Slide, Music Slide	All Files
	Slide Effect	Disable	
		Random, Crossfade, Rightward, Leftward, Upward, Increase, Decrease	Crossfade
	Transition Time	3,5,10,15,20,30,60 Sec	3 sec
	Caption	Enable, Disable	Disable
	Caption Position	Top, Bottom	Bottom
	Caption Color	Red, Orange, Yellow, Green, Blue, Deep Blue, Violet, Black, White Black	

Level 1	**Level 2**	**Level 3**	**Default**
Screen Setting	Caption Background Color	Red, Orange, Yellow, Green, Blue, Deep Blue, Violet, Black, White White	
	Caption Scroll	Quickly, Normally, Slowly	Normally
	Auto Scaling	Enable, Disable	Enable
	Auto Run Restart		
Time	Current Time		
	Time Setting	Manually, NTP server	
	NTP Server setting		
	UTC Setting		
	Time Display	Disable	
		LT, RT, LB, RB	
	Auto On/Off	Enable, Disable	
	On Time		
	Off Time		
Advanced	Screen Saver	Disable	Disable
		5,6,7,8,9,10 Min	
	File Sort	Name, Date, Size	Name
	OSD Message	Enable, Disable	Disable
	Language	Korean, English	English
	Font Size	Large, Medium, Small	Small
	Return to Initial State		
	S/W Upgrade		
Go to Menu	GOTO MAIN MENU		